DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-018804
Date Inspected: 20-Dec-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Job Site

CWI Name: Mike Johnson

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

Flush grinding/grinding cut orientation and smooth finish verification on the bottom of welded lifting lug restoration at the following locations were verified by this QA;

1. 1W-PP9.5-W4-#2
2. 1W-PP11-W3-#1

This QA performed 10% MT verification at the following edge plate and longitudinal stiffeners welded butt joints. Please see TL-6028 report for more information.

1. OBG 6E/7E edge plate ‘B’ inside - no defects noted.
2. OBG 6E/7E LS1 longitudinal stiffener inside – no defects noted.
3. OBG 6E/7E LS2 longitudinal stiffener inside – no defects noted.
4. OBG 6E/7E LS3 longitudinal stiffener inside – no defects noted.

At the job site, this QA witnessed the Performance Qualification Record (PQR) for the fillet weld soundness test welded at 2Fand 3F (horizontal/vertical) positions using the Shielded Metal Arc Welding (SMAW). The two fillet weld test plate was welded single pass on one side and multiple pass (three passes) on the other side. The T-joint

plates were 12”long x 6” wide x 1” thick ASTM-A-709 Grade 485 HPS plate material. ABF welder Rick Clayborn was observed welding the first test plate in 2 F (horizontal) position utilizing the SMAW with 1/8” diameter E9018H4R electrode implementing ABF-PQR-F025-2. The test plate was welded single pass on one side while the other side was welded multiple pass. Both fillet welds (single/multiple pass) were welded with 22volts, 131 amperes with 76mm/minute travel speed. During welding, ABF QC Mike Johnson was noted monitoring the welder and his welding parameters. After the completion of the 2F test plate, QC and QA performed the visual test (VT) and measured the welds. The single pass came out 7mm fillet weld while the multiple pass came out 14mm. Both welds deemed in compliance to the code and contract requirements.

The second test plate was welded in 3F (vertical) position using the same plate material, material thickness and joint configuration as mentioned above. The test plate was also welded by the same welder utilizing the same process and electrode implementing ABF-PQR-F025-3. The two fillet weld test plate was welded single pass on one side while the other side was welded multiple pass. Both fillet welds (single/multiple pass) were welded with 22volts, 140 amperes with 78.4mm/minute travel speed. During welding, ABF QC Mike Johnson was noted monitoring the welder and his welding parameters. After the completion of the 3F test plate, QC and QA performed the VT and measured the welds. The single pass came out 6mm fillet weld while the multiple pass came out 12mm. Both welds deemed in compliance to the code and contract requirements.

After the completion and verification of the two test plates, this QA assigned Caltrans lot number B231-031-10A and marked it to the plates.

Summary of Conversations:

During the review of the PQR documents that were provided to QA at the time of testing, it was noted that the electrode listed in the "Filler Metal Class" section was E7018-M-H4R. This was not the right filler metal that was used in welding the PQR mentioned above. When this was brought to the attention of QC, he informed QA that was a typographical error and will be corrected.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer